Space Weather Forecast

Issued on Thursday, 11 November 2021 at 12:46 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: No significant activity expected.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar Activity was at Very Low levels, with occasional low Background-class activity. There are currently three sunspot regions on the visible disc. There are two small and simple, mature sunspots; one in the northwest and another near the meridian in the southern hemisphere. The other sunspot group in the northeast quadrant is rather simple and small and has shown slight signs of decay with no significant flare activity observed.

No Earth-directed CMEs were observed in available imagery.

Solar Wind / Geomagnetic Activity: The solar wind speed was at slightly elevated levels initially, but gradually decreased during the period to background levels. The total magnetic field strength of the solar wind was weak, with no significant negative deflections in the important north-south direction. Resultant geomagnetic activity was Quiet (Kp 0 to 2).

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be generally Very Low, with a chance of Common-class flares.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs currently in the forecast. A weak CME is expected to pass ahead of Earth, with a weak glancing blow just possible, most likely on day 1 (11th). However, confidence is very low for this and any potential impacts are expected to be minimal.

Solar wind speeds are at slow ambient levels, but some slight enhancements are possible through the period. These most likely from weak effects from a small coronal hole later in the period. Geomagnetic activity is expected to be mostly Quiet with a chance of isolated Unsettled intervals, and just a slight chance of isolated Active intervals, mainly from any possible weak coronal hole influence on day 3.

Energetic Particles / Solar Radiation: No solar radiation storms are expected.

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Met Office

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	3	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	5	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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